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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Mark G. Romo

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EXAMINER

SONG, SARAH U

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/784,107	Applicant(s) ROMO ET AL.	
	Examiner Sarah Song	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-18, 20-22, 24, 25, 37 and 38 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 19, 23 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's communication filed on November 19, 2007 has been carefully considered and placed of record in the file. Claims 1, 2 and 9-12 are amended. Claims 26-36 were previously canceled. Claims 1-25 and 37-39 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claim 37 is rejected under 35 U.S.C. 102(e) as being anticipated by Hsu (U.S. Patent 6,954,579 previously relied upon).**

4. Regarding claim 37, Hsu discloses an electrically variable optical attenuator comprising: a pair of waveguides 86 and 70, each having a terminus, wherein at least one terminus is movable relative to the other terminus upon urging from an electrically driven actuator. Hsu additionally discloses a controller adapted to compensate an attenuation level based on the sensed variable (anticipated parameter). See column 5, lines 30-49.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-7, 10-18, 20-22, 24, 25 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu in view of Sharp et al.(U.S. Patent Application Publication 2003/0026581 previously relied upon).**

7. Regarding claims 1 and 12, Hsu discloses an electrically variable optical attenuator comprising: a pair of waveguides 86 and 70, each having a terminus, wherein at least one terminus is movable relative to the other terminus upon urging from an electrically driven actuator; and a sensor disposed relative to the pair of waveguides to sense a variable (position, capacitance,) that affects attenuation, and provide a sensor output related to the variable. Hsu additionally discloses a controller adapted to compensate an attenuation level based on the sensed variable (anticipated parameter). See column 5, lines 30-49.

8. Regarding the claims Hsu does not expressly disclose the claimed temperature sensors, wavelength sensor, acceleration sensor, or vibration sensor.

9. Sharp et al. discloses a VOA comprising a temperature sensor.

10. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a temperature sensor of Sharp et al. in the device of Hsu for the purpose of improving accuracy of the VOA by compensating for environmental effects, such as temperature as taught by Sharp et al. ¶0001.

11. Furthermore, various other sensors for sensing an anticipated parameter, such as the specifically claimed temperature sensors (including variable capacitor devices and resistance temperature devices), acceleration sensors, and vibration sensors are well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the

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invention was made to provide any of the various sensors in the device of Hsu for the purpose of achieving the predictable result of improving accuracy of the VOA by compensating for alternate environmental variables. Furthermore, it is noted that acceleration and vibration are merely time-dependent positional variables. Therefore, the sensor output of Hsu indicating position taken over various time intervals, provides a sensor output pertaining to acceleration and vibration as well.

12. Hsu also does not expressly disclose the controller including memory containing a look-up table, a multidimensional look-up table, or coefficients for a function relating the sensed variable to attenuation. However, Sharp et al. discloses controllers including memory containing look-up tables, multidimensional look-up tables, or coefficients for a function relating a sensed variable to a desired result ¶0007. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the controller containing the claimed memory for the purpose of simplifying the control process.

Allowable Subject Matter

13. Claims 8, 9, 19, 23 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The prior art of record does not fairly disclose or suggest the combination of a variable optical attenuator comprising a sensor that affects attenuation, wherein the variable sensed is wavelength as claimed.

Response to Arguments

15. Applicant's arguments filed November 19, 2007 have been fully considered but they are not persuasive with regard to claims 1-7, 10-18, 20-22, 24, 25, 37 and 38.

16. Regarding claim 37, the rejection pertaining to claims 1 and 12 and 37 was sufficiently clear to include claim 37, as indicated by heading of ¶3 of the previous Office Action as well as the language of ¶4, which replicates the language of claim 37, with the exception of the term "sensed variable". A parenthetical notation to indicate that the "sensed variable" is the "anticipated parameter" of claim 37 was added to clarify. The clarification is not deemed to constitute a new rejection.

17. Applicant further states that there is no motivation to combine the element of Sharp et al. and Hsu and that the Office Action's assertion of motivation relies on hindsight. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Furthermore, the motivation to combine is clearly found in the reference, which indicates that the performance of a VOA is temperature dependent and thus suggests the use of a temperature sensor in a VOA to factor in the changes in temperature. See ¶0001 of Sharp et al. Furthermore, the benefits of a temperature sensor in one VOA would have been readily apparent to one of

ordinary skill in the art for other VOAs as providing similar predictable results of improved performance by compensating for temperature variances.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarah Song/
Sarah Song
Primary Examiner
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